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DRIED HONEY MARKET ASSESSMENT

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1 The Business Idea

The intent is to commercialize a process that can produce honey in a powder form, with a high percentage of honey, and which has the taste and aroma of honey. The process that has been developed to do this is quite unique and will create a differentiated product in the market place.

Due to the quality of the products on the market, powder honey is primarily restricted to industrial uses. The usage of the product in table top restaurants or sold on the shelf to consumers is under-developed.

It is the view of the investors that by producing the product in a cost-effective manner, it will be possible to compete in the industrial market, with a product of higher quality than those currently on the market. The product is ideally suited to the industrial market, as it offers large food manufacturing facilities convenience without the clean up required with liquid honey.

The use of honey in industrial applications is believed to be growing due to the naturalness of honey and specific attributes such as its ability to extend the shelf life of food products.

At this time, we believe that a large market opportunity exists in the restaurant industry and in the retail stores if a product can be offered which has the taste and flavor of honey. The fact that these market segments are not represented by powdered honey to any significant extent is due to the lack of quality of existing products.

A patent has been applied for on the unique process that is used to produce this product. It is expected that this patent will be granted.

Huny Hunks Ltd. is interested in obtaining investment partners who will assist in commercializing this technology or creating strategic alliances with companies who will market the product on behalf of Huny Hunks Ltd. Other opportunities that the company is looking at include the sale of the technology in certain geographic markets.

2 Current Business Owners

The principal shareholders of Huny Hunks Ltd. are Don Bell, Jack Perkins and Larry Cavanagh, all three of whom are businessmen in Regina.

Don Bell is President of one of Canada's largest industrial insulation companies. He also sits as a management representative on the Saskatchewan Labour Relations Board.

Jack Perkins has owned and operated Bookbinding Factory for the past 35 years.

Larry Cavanagh has been involved in sales and management in life insurance industry for the past 25 years. Prior to that, he was western Canada's largest hearing aid distributor.

3 The Product

3.1 Definitions[1]

The US National Honey Board defines dried honey as follows:

"Dried honey products available commercially for industrial use are derived from pure liquid honey 1) to which have been added processing aids and other ingredients, 2) which has been dried to a low moisture content, and 3) which in most cases has been converted to a free flowing product.

In commercial applications and for labeling purposes, both 'dried honey' and 'dry honey' are used interchangeably. However, the term 'dried honey' is used to mean honey that has been dehydrated in which edible drying aids and processing adjuncts may be included to facilitate processing and improve product stability."

A major advantage is the product's low moisture content, usually between 2% and 3.5% (a maximum of 2.5% is a frequent specification).

3.2 The Name of the Product

Huny Hunks Ltd. is currently in the process of registering the name "Sno Gold Dry". This name would be used, as well as variations on it, to reflect different formulations, for example, "Sno Gold Dry – 50" to reflect 50% honey, and "Sno Gold Dry – 70" to reflect 70% honey.

4 Funding Support

In the years that the investors have been working on developing this product, the concept has captured the imagination of many people. The provincial government has been very interested in the potential of the product and has assisted in making monies available to assist in product development and market evaluation. Over the last number of years, the following grants have been provided to assist in the product development and marketing of powder honey:

- August 10, 2001 – ADF - $12,500
- December 15, 1998 – CARDS - $13,500

[1] www.nhb.org

- May 11, 1998 – National Research Council Canada - $6,919
- February 12, 1998 – Agriculture Development Fund - $25,000
- November 26, 1997 – Agriculture Development Fund - $10,000

5 Technology

5.1 Spray Drying/Process Principles

The Niro Inc. company was contacted to provide a quote on a 1000-lb./hour spray dryer. Niro is the company that manufactured the spray dryer installed in POS Pilot Plant and on which the product development work was done.

The Niro Inc. web page describes spray drying as the most widely used industrial process involving particle formation and drying. It is highly suited for the continuous production of dry solids in either powder, granulate or agglomerate form from liquid feedstocks as solutions, emulsions and pumpable suspensions. Spray drying is an ideal process where the end product must comply with precise quality standards regarding particle size distribution, residual moisture content, bulk density and particle shape.

Spray drying involves the atomization of a liquid feedstock into a spray of droplets and contacting the droplets with hot air in a drying chamber. The sprays are produced by either rotary (wheel) or nozzle atomizers. Evaporation of moisture from the droplets and formation of dry particles proceed under controlled temperature and airflow conditions. Powder is discharged continuously from the drying chamber. Operating conditions and dryer design are selected according to the drying characteristics of the product and powder specification.

Every spray dryer consists of a feed pump, atomizer, air heater, air disperser, drying chamber, and systems for exhaust air cleaning and powder recovery.

The selection of the atomizer, the most suitable airflow pattern, and the drying chamber design will depend upon the drying characteristics and quality requirements of the spray dried products.

The initial contact between spray droplets and drying air controls evaporation rates and product temperatures in the dryer. There are three modes of contact:

- Co-current -

  Drying air and particles move through the drying chamber in the same direction. As product temperatures on discharge from the dryer are lower than the exhaust temperature, this is an ideal mode for drying heat sensitive products.

- Counter-current -
Drying air and particles move through the drying chamber in opposite directions. This mode is suitable for products that require a degree of heat treatment during drying.

- Mixed flow -
Particle movement through the drying chamber experiences both co-current and counter-current phases. This mode is suitable for heat sensitive products where coarse powder requirements necessitate the use of nozzle atomizers, spraying upwards into an incoming airflow, or for heat sensitive products where the atomizer sprays droplets downwards towards an integrated fluid bed and the air inlet and outlet are located at the top of the drying chamber.[2]

At the time of writing the report, the quotation from Niro on the cost of a 1,000-lb/hour complete dryer system is US $2.5 million.

In discussions with Dr. Greene he recommended that prior to commercial production commencing, that samples be sent down to the Niro facility so that they can recommend on the most appropriate operating requirements. Secondly, he recommended bringing in a Niro technician when the product is run through the Barrhead facility. Dr. Greene spoke highly of the company, having used their technical people in the past. He advised that they have a great deal of experience on malt and syrups.

5.2 The Process Used by POS on Product Development

Rick Green of POS provided the writers with a tour of the POS Pilot Plant, outlining how the system worked to produce powdered honey. The first step is to understand that when spray drying takes place at high temperatures it drives off the flavors of the product. To overcome this, the honey is first mixed with approximately 18% of water and this is then evaporated off. The result is that the condensation contains a great deal of the honey flavors. The honey, back to its original moisture level, but without the flavors is then processed in the spray dryer, which drives the moisture down to 3% - 4%. The dried powder is collected in bags, and then evenly spread over a fluid bed dryer. The moisture that had originally been removed is mixed with the powder in a fluid bed dryer and dried down to a moisture level of 4% - 5%.

It is the first step that is unique and is believed to be a patentable process.

[2] www.niroinc.com

5.3 The Patent

According to Smart & Biggar, patent lawyers, they have filed the Demand for International Preliminary Examination. The international examiner's Written Opinion is expected within 1 – 2 months.

According to information provided by Huny Hunks Ltd., the benefit of completing the Patent Cooperation Treaty Process is that, when the search agent agrees with the claims, it is then possible to choose in which countries to file the patent.

5.4 Taste Tests

While undertaking the POS tour, Rick Greene presented a comparison of various competitor products, which POS had on hand. These products had been obtained at different times and thus there was a difference in the age of the products being tasted.

Sweet N' Neet 50

- The product had been purchased March 1, 1999, and in the closed container was rock hard.
- The product contained maltodextrin and honey, with the honey being 50%.
- The product had a very brown color, and when mixed with water turned the water slightly darker.
- The product dissolved readily in water.
- Taste was very bad, leaving a bad aftertaste.
- No odor of honey and didn't taste like honey.

Huny Hunks

- This product had been processed in April 2001.
- It contained maltodextrin as well as silicon dioxide as an anti-caking agent. The product was in a closed container and was hard on top.
- Only a small amount of flavor had been added back to this product.
- The product has a cream colour and was more attractive than the ADM product.
- It tasted bland but had more of a honey taste than the ADM product.
- No bitter after taste.

Honey Flavor

- Taste tests were also done with a Honey Flavor manufactured by Wild Flavors, 1261 Erlanger Ky 41018. This product smells very fruity, tasted very sweet but did not taste like honey at all.

In summary, the taste tests indicate that the Huny Hunks product had a much nicer taste and more like honey. The hardening of the ADM product and the beginning of hardening with the Huny Hunks product suggests that appropriate packaging will be required in order to obtain an extended shelf life.

5.5 Other Learnings

When Dr. Rick Greene was asked what could be done with the product to either increase sweetness or increase the honey taste he suggested the following:

- An increased sweetness can be obtained with a higher DE maltodextrin. An alternative is to add in high fructose corn syrup, but this will result in a fruity taste. This is what Labonte in Montreal has done with their Fructose and Honey product and that product tastes nothing like honey.

  The problem with going to a higher DE maltodextrin is that it will be more hygroscopic, and will pull more water out of the air, likely causing it to clump more. The other problem is that it may be harder to spray in the spray dryer.

  The addition of fructose, although sweeter, is also more hygroscopic and more likely to clump.

- To increase the honey taste, more flavored condensation could be added back. This could be emphasized by concentrating the flavor by evaporating some of the water, so that less water with higher flavor concentration is added back. The current problem is that the flavored honey condensation has to be added back slowly. If concentrated, this problem could be minimized.

Rick identified other product features with the Huny Hunks:

- At times they were able to get to a 70% honey in the mixture, but this depends on the given day and the dryer.
- The honey powder in water will stay permanently suspended, whereas liquid honey will not do so.
- There may be some potential to sell the flavored extracted honey liquid.

5.6 Next Steps on Product Development

1. Rick Green believes that tests should be done to increase the sweetness level.
2. In the product that has been run to date, it was not possible to add all the water with the honey flavoring back. He would like to be able to do this possibly by concentrating the liquid through evaporation prior to adding back.
3. He would like to assess the potential of using a vacuum dryer rather than a spray dryer. It would consist of one chamber and then a milling step afterwards to break up the lumps. At the pilot plant stage this is a slow operation producing 100 lbs. in a batch over 8 hours. The economics of this method at a commercial scale would need to be evaluated.
4. Rick requires feedback on what the market needs exactly in terms of sweetness, flavor, coloring, etc., before a great deal more product development can be done. For example, if baking requires a higher honey percentage, this may be achieved

with starch instead of maltodextrin. However, with the starch the product would be bland.

5. POS recommends consumer taste tests if the product is to be sold retail and baking tests if the product is to be sold for the industrial market.
6. It is possible to add lemon extracts to the powdered honey or fruit extracts, and market assessment will be required prior to conducting the product development.

5.7 Feature Advantages of Huny Hunks

The process by which honey flavor can be added back is a feature that has created some interest in the industrial market. This may serve to be a product differentiator in the industrial market, and create a unique product in the retail and restaurant market.

The fact that the product contains only maltodextrin presents opportunities for companies desiring ingredients requiring few label declarations. Huny Hunks achieves that purpose. In the industrial market the major competitor is ADM. A number of the ADM products include ingredients that have to be shown on label declarations. The ADM Honi-Bake product is the only product that is made with maltodextrin with minimum number of ingredients requiring listing on the label.

Thirdly, there are no ingredients containing gluten utilized in the manufacture of the Huny Hunks product. This is due to the fact that maltodextrin is manufactured from cornstarch. This makes the product attractive to those with sensitivities to gluten.

5.7.1 Product Labeling Advantages

According to product labeling requirements of the Canadian Food Inspection Agency, ingredients shall be shown in descending order of their properties. Food additives need to be shown at the end of the list of ingredients in any order.

This means that maltodextrin and silicon dioxide must be shown on the label. The discussions with end users suggest that they are looking for ingredients that will result in the least amount of declaration. In this regard, the Huny Hunks product has an advantage over many of the products offered by ADM, which contain ingredients such as wheat, soya, etc.

According to the Food and Drug Administration in the US, the ingredient list must include everything that has been added during the processing. If maltodextrin is an ingredient it must be listed, as would be silicon dioxide. The ingredient list must contain the name of the additive and its function. For exampie, silicon dioxide as an anti-caking agent. When labeling a product it always has to be kept in mind what it means to the consumer, i.e. dried honey must be stated as such, as real honey means liquid honey to consumers.

6 Production

6.1 Cost and Requirements of the Equipment

As noted earlier, the quote from Niro for the cost of a 1,000-lb./hour spray dryer is $2.5 million US. In the view of the writer, this makes the project non-feasible unless a source of processing can be found.

6.2 Alternative Sources of Processing

Due to the fact that processing this product at a product development pilot plant is very expensive, other sources of processing were investigated. The Sepallo Corporation of Barrhead, Alberta has a commercial size spray dryer. They have proposed the following quotation in order to toll process honey powder:

Product prep. @$80/hour @ 1.5 hours =	$ 120.00
Spray drying @$312.00/hour @ 3 hours est. =	$ 936.00
Spray Dryer Clean Up @$250.00/hour @ 5 hours =	$1250.00
Estimate	$2306.00

This quote has been provided for test trials of toll processing. In discussions, they expect that these costs will be reduced once the test trials are complete.

The estimated output is reported to be 1500 lbs per hour at this facility. If the facility were running for a continuous 3 hours with production of 4500 lbs./hr., the cost per pound would be $0.51/lb. If the plant were running for a continuous 6 hours of production with production volume of 9000 lbs., the cost per pound would be $0.36/lb.

The organization is reported to be both organic and kosher certified.

6.3 Toll Packaging Costs

The Saskatchewan Abilities Council was approached on the costs of doing the packing of the ingredients. If they were to get into this product they would require a packer for the 3-gram packages. The costs that we have shown are based on these packages being done manually.

The Council has pouch packers and vacuum packers that would be ideal for the industrial market.

6.3.1 Retail Pack

The Saskatchewan Abilities Council was approached on the costs of doing a retail pack consisting of 50 packets of 3 grams each; with 150 grams to a stand up zip lock bag.

The following quotation was provided:

Package material for 50/3 gram packet @ $0.005/packet	$0.25
Monogram stand up pouch pack	$0.21
Cost of corrugated $1.00/case @ 12 packs/case	$0.08
Packing cost manual fill @$0.02/packet*	$1.00
Total packaging costs per r150 gram box	$1.54

*It is reported that the packing costs per package could be reduced to $0.01/packet with a form and fill machine.

6.3.2 Food Service Pack

The following quotation was provided by the Saskatchewan Abilities Council on a 2-pack/10 kg product, vacuum packed with a total weight of 20 kg.

Package material for 2 vacuum packed bags @$0.20/bag	$0.40
Cost of corrugated case	$1.00
Packing cost to fill 2/10 kg vacuum pack bags	$0.70
Total packaging costs for 20 kg of packed weight	$2.10

6.3.3 Potential Use of the POS Equipment

1. The current spray dryer at POS can be fed at the rate of 400 kg/hour. The spray dryer will draw off 180 kg of water during the process leaving 220 kg of finished product. On an 8-hour shift and basis 220 days per year would produce only 880,000 lbs. of product (399 tonnes) in one year. If 3 shifts were run it may be possible to produce 1200 tonnes of product. It may be possible to get started using POS or Innovation Place equipment on a trial basis, but this would not seem to be a long term option.
2. The Bioprocessing facility at Innovation Place is reported to have 240 kg/hour of product throughput at a time. Only 120 kg/hour of finished product is produced.
3. Dairyworld is reported to have a spray dryer that is 10 – 20 times that of the POS Pilot plant. It is unclear how much surplus capacity, if any, is available on this machine.

7 Powdered Honey Uses and its Properties

7.1 Results of Secondary Research

Secondary research has been conducted in addition to that done by POS Pilot Plant to investigate the uses for which powdered honey is being used. The following uses were identified:

1. Honey is being reported as being used as a functional food in the dairy industry. Honey enhances the activity, growth and viability of commercial bifidobacteria found in fermented dairy products. Honey is also becoming popular for its ability to enhance the sensory attributes of dairy beverages on the basis of mouth feel, flavor and color. There could be potential for dried honey.
2. A research study presented at the annual National Strength and Conditioning Association meeting suggests that combining powdered honey with a protein supplement may boost post-workout recuperation and favor better blood sugar maintenance after exercise. " We were pleased to find that powdered honey promoted favorable changes in post-exercise markers of metabolism equal to that of the current standard, maltodextrin", says Dr. Richard Kreider, Director of the Exercise and Sport Nutrition Laboratory at the University of Memphis.[3]
3. A patent has been granted for a honey formulation for topical application of wounds. It includes the active ingredients of honey and related products and may take the form of a cream, gel, ointment, paste or lotion. It has reduced stickiness and irritation potential and a controlled consistency that may be applied topically at desired doses for therapeutic, cosmetic and nutritional purposes. In the spray application, freeze dried honey is used. [4]
4. Honey, including spray dried honey, is being used in the cosmetics industry. Honey has been recommended for use in cosmetics for delicate skins and for dry skin. Honey is claimed not only to pamper and improve the appearance of the skin but also to nourish and preserve it due to potent softening and soothing properties. It allays irritation and is good to apply to chapped hands and frostbite. Published data has indicated that honey is one of the easiest and most effective agents to cool and heal burns, being instantly applicable and forming a protective cover that allows the burn to heal quickly. Spray dried honey is viewed as a convenient alternative to liquid honey, requiring less space and is in a convenient form for prolonged storage. [5]
5. Honey from amber wild flowers, spray dried is being used in pearlescent shampoos, emulsified hair conditioners, and other emulsified skin care products such as creams, milks or face masks. [6]

[3] Honey may increase recuperation after workouts, 2000 Financial Times Information Ltd., Electronic Collection A64840397
[4] Honey Preparations, Soap Perfumery and Cosmetics, Feb 2001, v74, i2, p49.
[5] Sweet as honey. Soap Perfumery and Cosmetics, April 1998, v7 n4 p41.
[6] Ibid.

6. Added to hair conditioners, honey is ideal for use in the popular sector of "heat safe" items for hairdryers and heated styling aids. It is unclear whether powdered honey is being used.[7]
7. A research funded by the US National Honey Board yielded several findings that would put honey in everybody's most wanted list. The addition of liquid and dried honey to poultry products reduces the autoxidation rate in meat while cooking, resulting in enhanced taste and a more intense brown color. In addition, honey reduces shrinkage in meat because moisture is retained. This increases cook yield and therefore represents added value for money. Honey also minimizes the growth of bacteria in meat, which connotes lengthier shelf life.[8] A company called Cedar Hollow Foods advertises a ham that has glaze packet ingredients containing sugar, dried honey and spices.[9]
8. Honey appears to have an effect of maintaining cereal crispness after addition of milk.[10] However, discussions with the Kellogg company suggest that this is primarily liquid honey and in relatively small volumes.
9. A research study out of Purdue University, reports that dried honey has been tested with turkey meat, with the finding that the honey increased the oxidative stability of the product. Honey can act as a natural antioxidant which can serve to reduce the use of artificial preservatives combined with the perception that honey is a healthy sweetener.[11] What is not understood yet is the extent to which the poultry processing industry is using the product as a natural preservative and whether dried honey is also being used.
10. The US National Honey Board defines dry honey, dried honey or powdered honey as the removal of the water found in liquid honey by drum or spray drying. Dry honey can be used in prepackaged baking, sauce, soup mixes and spice blends.
11. The following products were reported to contain powdered honey:
    - RAP Snacks Honey BBQ Chips
    - Celestial Seasonings Green Tea
    - The web page of Campnor, advertises a product, Natural High – Honey Mustard Chicken, which uses dried honey with chicken, snow peas, carrots and long grain rice.
    - Wheatables Toasted Honey Snack Mix
12. Confectionary Applications including:
    - Coatings – Honey Powder HRD 40
13. Prepared Mixes Applications including:
    - Desserts (Ice Cream, Puddings, Toppings) – Honey Powder HRD 40, Honey Powder HSD 50
    - Mixes (Breading, Coating, Sauces) – HRD 40
14. Condiment Applications including:
    - Sauces (Ready to Use) – Honey Powder HSD 50

[7] Ibid.
[8] One honey of an idea. Prepared Foods, March 1996 v165 n3 p77.
[9] www.cedarhollowfoods.com
[10] Sweetener Effects on Flaked Millet Breakfast Cereals, Journal of Food Science, Volume 63, No. 4, 1998.
[11] Effect of Dry Honey on Oxidation in Turkey Breast Meat, 2000 Poultry Science 79: 1846 – 1850.

15. Bakery Applications including:
    - Breads, Rolls, Buns – Honey Powder HRD 40, Honey Powder HSD 50
16. Beverage Applications – Honey Powder HSD 50
17. Protein Supplements, Vitamins, etc. – Companies that make these product include:
    - Heartland Health and Nutrition Products – with a product called HHNP Complete Protein.
    - RXBYTel with Chewy Bears and Friends, a chewable calcium tablet aimed at the children's market.[12] A similar product marketed called Stone Age Kids Calcium, marketed by Shopamproducts.[13]
    - Bee-Alive Health Products – Bee-Happy Plus, a product containing St. John's Wort with Rhodiola Rosea, Siberian Ginseng and dried honey. This product is of note that they advertise as not containing yeast, wheat gluten, soy protein, milk/dairy, corn, sodium, sugar, starch, artificial coloring, preservatives, flavoring or fillers.[14]
    - ABOCA Leading Products, selling Propolis tablets, which contain 137 mg of freeze dried honey in each 700 mg tablet. [15]
18. Breads: The web page of Eagle Mills Best Loaf Bread Machine Mix shows the use of dried honey in their Honey Oat bread. The 1999 American Association of Cereal Chemists report that studies had been done on the addition of honey and dried honey in the manufacture of ethnic flatbreads including Mediterranean breads (focaccia), Middle Eastern breads (pita, barbaria, zata), Indian breads (naan) and other Asian and European breads. It was concluded that honey could be used as a primary sweetener with functional benefits for flatbread production.[16] The 4th Sensometrics Meeting 1998 reported that bread made with the addition of honey consistently was the softest sample on each day of storage.[17] The addition of honey extended the storage life of fresh bread to three days. The honey addition was in the form of 5% dried honey and 1% honey. The 2000 IFT Annual Meeting report that dry honey was found to be more effective than sucrose or liquid honey in prolonging staling effects of ethnic flat breads.[18]
19. Bread Mixes – Bakemark sells a product, Wheat & Honey Base, in a dry bread mix requiring the addition of flour, water and yeast. The product is used to produce pan style breads, rolls and sandwich buns. Dried honey is used in the mix.[19]
20. Pancake Mixes – Cliftonmill markets an Oat Bran and Honey Gourmet Pancake Mix with dried honey as an ingredient.[20]

[12] www.rxbytel.com/shop/product
[13] www.shopamproducts.com
[14] www.beealive.com/herbs
[15] www.aboca.it/uk
[16] www.scisoc.org/aacc/meeting/99mtg/abstracts/acabb24.htm
[17] www.dina.dk
[18] www.ift.confex.com/ift/2000/techprogram/paper
[19] www.bakemark.com/productDetail.cfm?ProductID
[20] www.cliftonmill.com

21. Bird Feed – C & L Aviaries web page shows a product, Goldenfeast GardenFlora Blend, which is a bird feed targeted for Cockatiels using dried honey as an ingredient.
22. Specialty Wine – Honey Wine a product sold over the internet to wine makers contains 96.5% spray dried honey powder and 3.5% white wine flavor. An Australian winery called Peter Lehman has a wine called Barossa Chardonnay, a wine containing apricot jam and dried honey flavors.[21]
23. Pizzas – A company called Bravissimo sells Organic Rising Crust Pizzas. Ingredients listings for all three of their products are dried honey. A company called SafariHealth sells a whole-Wheat Pizza Crust Mix, which contains dried honey.[22]
24. A Master of Science thesis submitted by Matthew Strait of the Virginia Polytechnic Institute and State University indicated that both liquid and dry honey helped prevent staling of product with dry honey being the most effective.[23]
25. Industrial Foods – The company Pure Foods Inc. has taken on a variety of new product lines under an industrial foods division. These include dried honey and dried molasses.[24]
26. Snack Foods – Spray dried honey is being used in a number of products. Liv-N-Wells Gluten-Free Snacks has several products, which contain dried honey including Little Bear Original Caramel Corn, Kettle Potato Chips – Honey Dijon, and Kettle Potato Crisps – Honey Barbeque.[25] Azure Standard Quality Bulk & Natural Foods advertise the Bearitos Caramel Corn made with dried honey.[26]

7.2 Results of Primary Research

Telephone interviews were conducted with end users on the use of this product.

A discussion with a formulator in the US for food preparations informed us that there is a lot of false labeling in this category. He used examples such as Domino's Honey Flow, which are only 8% honey and really a flavored sugar. The USDA and FDA are stepping up enforcement on labeling in this category.

Large food manufacturers were not identified as a preferred target market for this product, due to them being price sensitive and concern about food allergies. In one interview the food company was using honey flavoring rather than actual honey.

[21] www.peterlehmannwines.com.au/review
[22] www.safarihealth.com
[23] Matthew Strait, The Effect of Liquid or Dry Honey as a Partial Replacement for Sugar on the Baking and Keeping Qualities of Fat Reduced Muffins, Thesis Submission for Master of Science in Human Nutrition, Foods and Exercise, Virginia Polytechnic Institute and State University, July 24, 1997
[24] www.purefoodsinc.com/industrial.htm
[25] www.liv-n-well.com
[26] www.azurefarm.com

The formulator felt that there was opportunity in the health supplements and pharmaceuticals where the margins are higher. This was confirmed by the writers in one of the interviews.

Interviews with a US meat company indicated the use in ham glazes but all formulas are proprietary.

A major area of interest was from companies who wished to sell gluten free products. We were told that products that are gluten free are of interest to individuals with Krohn's disease and Colitis and those with various immune system disorders. This company is selling their gluten free products all over North America from their web site as well as having national retail distribution. This same firm advised that 1 in 250 people need gluten free products. The total North American market is reported to be $500 million. Sugar amounts to 3% - 5% of weight of products in bread to 50% for cookie mixes.

A major area of interest is for use in industrial applications. An example is the use in bakery mixes where honey is required but is too messy. Companies like CSP Foods are using powder honey in their bakery mixes to avoid the clean up time required with honey.

In discussions with two large Canadian retailers, they indicated very little interest at this time in a retail powder honey product.

Discussions with SERCA Foods, the largest food service distributor in Canada indicated that they were not currently selling a powder honey and nor had they received requests to carry such a product. This was confirmed by a second food service distributor in British Columbia. Several high-end restaurants were also spoken to and they did not see much interest in a powder honey for the table market. As Larry Cavanagh has discussed, high-end coffee shops like Starbucks may have an interest in such a product but we have been unable to confirm this.

8 Producers of Dried Honey

8.1 Australia

A study done in 1996 in Australia showed dried honey as a relatively new product in the Australian marketplace, having been manufactured there since 1992. Uses were restricted to the industrial market rather than retail.

Companies producing the product were indicated as:

- Earle Products – Brisbane
- Bush, Boake & Allen – Melbourne
- Super Bee – Caloundra

The study reports that the only company that dries and packages its own product was Super Bee. The others subcontract the drying of honey to companies that possess milk-drying equipment.

The Earle products are believed to be dried by Norco at Casino.

The price in the Australia market for 25 kg bags sells for $12 per kilo to industrial users, composed of 50% honey and 50% maltodextrin. The improvement in the price of honey is a factor of 24 from which must be subtracted the cost of processing and packaging, and marketing. [27]

It is of interest to note that an Australian publication called Herbs Australia Marketplace had an ad to identify sources of dried honey for inclusion in herbal teas and gourmet products. Focus on Herbs PO Box 203 Launceston, Tasmania 7250.

8.2 United States

The US National Honey Board identified the following manufacturers of dried honey in the U.S:

ADM Arkady
100 Paniplus Roadway
Olathe, Ks 66061
Phone 800 255 6637
Fax 913 782 1792

ACH Food Companies Inc.
1115 Tiffany St.
Boyceville, Wisconsin 54725
Phone 715 643 2600
Fax 715 643 2221

Crompton & Knowles
Ingredient Division
1595 MacArthur Blvd
Mahwah, NJ 07430
Phone: 800 631 8305
Fax 201 818 2244

Crompton & Knowles was identified by the Honey Board as a manufacturer but in discussions with the buyer it was indicated that they are buyers.

[27] http://www.nor.com.us/business/gbec/honey.htm

Sioux Bee Honey
301 Lewis Blvd.
Sioux City, IA 51102
Phone 712 258 0638
Fax 712 258 1332

Sioux Bee was identified as a manufacturer but in discussions it was indicated that if they did any manufacturing it was very small. They tended to act more like a distributor.

The interview with the Quality Control Manager of Sioux Bee Honey indicated that they are not currently manufacturing their own product. Their broker network has indicated a demand for the product but Sioux Bee has not been satisfied with the quality of powder honey available to them from other packers and manufacturers. They also are not happy with the quality of product they have attempted to develop. It sounds as though they have other companies product for sale if they are asked but at this time they are not actively promoting the product.

Sioux Bee indicated that they had not completed a marketing assessment of the product. Their market research consisted of second hand information. They have talked to potential customers and they have determined that dried honey is a "spectrum product". Different customers required different specifications in terms of flavor, quality and sweetness, etc. They are not sure what side of the spectrum they want to be on, high quality and high price or low quality and low price. They have determined that there are lots of dryers with machine time availability; however, it is not sure what other products they are also drying and what percentage of run-time could be dedicated towards honey. They are interested in outsourcing.

Specialty Products Technology Inc.
5720 Green Circle Drive
Minnetonka, MN 55343
Phone 952 933 3006
Fax 952 933 3050

The Imperial Sugar Company -
The web page for this company states that they offer a full range of Dry Honey and Dry Molasses products.[28] Imperial Sugar Company has combined its many specialty sweetener resources to create the Imperial Specialty Products Group.

Industries Inc. and Savannah Foods and Industries Inc. create a joint venture called Quality Ingredients Corp. for the marketing, sales and manufacture of dry honey and dry molasses.

Miel Labonte Honey Inc. is importing a product that is being marketed in retail stores in Canada called Fructose & Honey Powder Blend. The product is sold in a box containing 50 packages of 3 grams each. In the informal taste tests that we conducted, the product is

[28] http://www.imperial sugar.com

not very sweet and has a very high after taste. There is no resemblance to honey in our view. It has been reported that consumer acceptance of this product has been poor.

ADM Arkady produces a number of various honey powder formulations for the industrial market. Sold in 50 lb. corrugated carton with polyethylene inner bag.

Dry Honey Product	Sweetener Solid dry basis	Moisture % max.	Color	Description	Applications	Ingredients
Honi-Bake Honey Powder/Flake	65% honey and other sweetener solids	2.5%	Yellow	Powder/Flake	Baked goods, mixes, sauces, snacks	Honey, High Fructose Corn Syrup, Wheat Starch, Corn Syrup, Soy Flour, Calcium Stearate (anti-caking agent) and Hydroxylated Lecithin (Processing Aid)
Honi-Bake 705 Honey Powder/Flake	65% honey	3.5%	Yellow	Powder/Flake	Baked goods, mixes, sauces, snacks	Honey, Wheat Starch, Soy Flour, Calcium Stearate (anti-caking agent) and Hydroxylated Lecithin (Processing Aid)
Sweet'n'Neat 2000 Honey Powder	70% honey	3.5%	Yellow	Powder	Snacks, candy, baked goods, mixes, sauces, dairy, meats	Honey, Wheat Starch, Calcium "Stearate (anti-caking agent) and Hydroxylated Lecithin (Processing Aid)
Sweet'n'Neat 3000 Honey Flake	70% honey	3.5%	Yellow	Flake	Snacks, candy, baked goods, mixes, sauces, dairy, meats	
Sweet'n'Neat 50 Honey Powder	50% honey	4.0%	Yellow	Powder	Beverages, sauces, meats	

Domino Sugar -

The Domino Sugar Company produce what is described by one formulator in the trade as a "flavored honey sugar". From the reports that we received it is a very inexpensive product. The USDA has tightened up on labeling requirements suggesting that the ability of companies to promote their product as a honey product while containing less than 10% honey will be restricted.

9 Distributors of Dried Honey

Western Commerce Corporation features a range of conventional and organic liquid and powdered honey, molasses, malt and maple syrup. Although not specified, it appears that the product that they are distributing is that of ADM. This interview identified that the market was just beginning to pick up and the major markets were the bakeries and pharmaceuticals.

The Pharmaceutical Technology Buyers Guide identifies two companies for sale of dried honey and compressible honey.[29]

Adept Solutions Inc.
331 Capitola Avenue Suite L
Capitola, CA 95010
Email: info@advancedingredients.com
Web Site: www.ift.org

Adept is a formulator of food products rather than a distributor.

Functional Foods Corp
470 Route 9
Englishtown, NJ 07726
Email: yshah5462@aol.com
Yogi Shah: (732) 972 2232

Other distributors include:

Ingredients International LLC
5900 Broadway Avenue
City of Commerce
California, 90040 – 3006
Telephone: (323) 685 3340
www.ingredientsintl.com

[29] www.advanstars-web-support.com

The person at Ingredients International indicated that they distribute Domino product in both powder and granulated form generally for baked goods and the nutritional bar market. This product has composition of 6% honey and the rest is sugar yet they call it 100% natural with no artificial additives and instantly soluble. He mentioned that the granular product is better than the powder because during storage the powder agglomerates and it is easier to break up the granular.

CHR Hansen markets a product called Hony-Tab, a compressibie dried honey.

MLG Enterprises Limited
P.O. Box 52568 Turtle Creek
Mississauga, Ontario
L5J 4S6
Mlgent@worldchat.com

This company distributes specialty sweeteners, molasses, glucose, golden corn syrup, liquid invert sugar malt, custom blends, high fructose corn syrup, dextrose, dried molasses, dried honey, dried malt, etc.

10 Pricing

There are three potential markets for powder honey, including the retail, food service and industrial markets. The highest prices are in retail, although this appears to be the lowest volume at this time. The second highest prices are in food service, although this appears to be an undeveloped market. The lowest prices are in the industrial market, which is the highest volume potential.

For the industrial market, ADM has quoted the following pricing for a blend of 50% honey and 50% maltodextrin. The price is $1.35 US/lb.or $2.08/lb CDN for food service pack of 50 lb. FOB Chicago.

LaBonte markets a product on the retail shelf called "Fructose and Honey" and this product retails for $4.69/150 gram package. Allowing 25% margin for retail and 25% margin for distributors, the selling price delivered is estimated at $3.00/150 g retail pack. This equates to $9.09/lb.

The following sugar prices and honey prices were provided by Western Pizza on May 11, 2001[30]:

Sugar – 2000, 3 gram envelopes (6000 grams) = $33.47
(In western Pizza envelopes). Cost $2.53 per pound.

Sugar Twin – 1000, 3 gram bags (3000 grams) = $43.37. Cost $6.56 per pound.

[30] Information provided to Larry Cavanagh by Western Pizza.

Liquid Honey – 200, 9 gram packets (1800 grams) = $27.37. Cost $6.91 per pound.

It appears from this analysis that ADM is pricing their product to be competitive with sugar.

This market analysis is based on using the industrial prices of ADM to look at the feasibility.

11 Size of Market

It is difficult to estimate the size of the market because the volume of powder honey is not reported by either Strategis (Industry Canada) or USDA. There is no categorization number used to record trade data.

However, there are a couple of indicators which may be of use:

- One account in Alberta selling gluten free products estimate that their volume requirements are 30,000 to 40,000 lbs of product per year.
- One bakery mix account in Canada is utilizing 24,000 lbs. per year of powder honey per year. A US bakery mix account is utilizing 40,000 – 60,000 lbs. per year. On the basis of their North American market share, the potential in Canada is for 80,000 lbs of product and in the US 800,000 lbs. of product.
- The Ogilvie's operation, which was purchased by ADM, would buy 200,000 lbs of honey per year to produce an estimated 400,000 lbs. of powder honey for the western Canadian operation.

For this plant to run 220 days per year at 1000 lbs./hour on 12 hours of production would produce 2,640,000 lbs. of product. It would appear reasonable to assume that this operation could plan on sales of 500,000 lbs. per year in Year One increasing to two shifts per day or 2.6 million lbs. per year.

12 Cost of Production

12.1 Food Service Pack

Total packaging costs for 20 kg of packed weight	$ 2.10
10 kg of maltodextrin @$0.10/lb	$ 2.20
10 kg of honey @118% @$1.00/lb.	$26.01
Total production cost for 20 kg.	$30.31
Cost per lb.	$ 0.69

12.2 Retail Pack

Total packaging costs per 150 grams of finished product	$1.54
75 grams of maltodextrin @$0.10/lb. ($0.22/kg)	$0.02
75 grams of honey @ 118% @$1.00/lb.($2.20/kg)	$0.20
Total production cost for 150 grams	$1.76

13 Gross Margin Analysis

The ADM product is sold at a price of $2.08 CDN per pound Fob Decatur Illinois, which suggests that freight has to be added to the price.

The food service margin per pound would be:

Selling price per pound	$2.08
Cost per pound for packaging and materials	$0.69
Gross margin per pound	$1.39

From this would need to be deducted the following cost items:

- Brokerage fees

With a new product that is being introduced to the market and with a new broker it is usual that lump sum payments would be made for a number of months to cover the broker's costs while he makes presentations and builds the market. Usually payable in advance this could be as high as $10,000 per broker. It may be possible to negotiate this amount payable over a number of months.

The broker's commission can vary between 3% - 5% and in this case it is expected that a 5% brokerage fee will be requested. Based on just the variable component this could represent $0.104/lb.

- Distributor Costs

ADM utilizes Tate and Lyle for their food service distribution. It is assumed that a distributor will be utilized to distribute this product or a marketing agreement with companies such as Wescobee and BeeMaid will be negotiated. If a distributor were utilized we would expect that the distributor margin requirements would be in the area of 25%. Based on a final selling price in the market of $2.08 per pound, means that the distributor up charge is $0.42/lb.

- Interest on Packaging Cost

The quotes that have been provided by the Saskatchewan Abilities Council are based on certain minimum volumes of packaging material being ordered in advance. Using the food service product as an example, the material cost is $2.80/20 kg box. Assuming that the packaging material turns only twice per year, means that the interest cost on this packing material for six months at 8% interest is $0.11/case or $0.0025/lb.

- Interest Cost on Inventory

With the food service product being vacuum packed, shelf life will be extended. Testing will be required but it is assumed that 12 months of shelf life should be possible. Since the production cost of the product is so dependent on volumes processed, it is assumed that a sizeable volume will be processed each time to provide at least 6 hours of production time.

Based on a product cost of $0.69/lb. the interest cost for one year at 8% would be $0.06/lb.

- Storage Cost

It has been assumed that the distributor will store the product at no additional charge. If this is not so or distributors will not be used then a cost will have to be added in for this.

Savings may be possible with the following:

- Quality of honey

The margin calculated above has assumed that a #1 honey is used worth $1.00/lb. It would be in everyone's interest to explore cheaper sources of honey such as lower grades. Based on a price of $0.70/lb. for honey rather than the $1.00/lb. used in the example will reduce the raw material costs by $0.18/lb. of finished product. We would expect that BeeMaid Honey and most likely Wescobee would be very interested in finding markets for their lower grades of honey.

The type of lower grade honey and its price will have to be determined. The above represents only an estimate.

The revised gross margin would now appear as follows:

Selling price per pound	$2.08
Cost per pound for packaging and materials	($0.66)
Brokerage fees	($0.10)
Distributor Costs	($0.42)
Interest Cost	($0.06)
Use of lower quality honey	$0.18
Gross Margin (prior to fixed costs of rent, salary etc./lb.)	$0.99/lb.

14 Strategic Alliances

14.1 Identifying Potential Partners

The ability to have Seppalo produce the product at Barrhead with raw honey supplied from the BeeMaid Spruce Grove facility is a real opportunity. At this time they are the only spray dry facility with capacity available to do toll processing.

The ability to have the Saskatchewan Ability Council in Saskatoon do the packaging will require shipping of the raw honey in drums to Saskatoon with furtherance to the market from Saskatoon. Since most of the market is expected to be in Saskatoon at the Robin Hood flourmill, which produces bakery mixes, and at the CSP Foods Ltd. facility, which also produces mixes, the disadvantage is somewhat minimized. Secondly in the case of these large users, direct shipments will be possible without the use of a distributor, thereby improving the margins by $0.42/lb.

Wescobee presents the opportunity to have an alliance with a proven exporter of retail products to countries such as Saudi Arabia. They also have the potential to utilize this product in their Australian and New Zealand distribution channels. However, their strength is not in the North American market.

BeeMaid Honey Ltd. is well positioned to market this product into the retail market in both western Canada and the western US. However, the growth prospects for the retail market appear limited unless this product can show a real advantage in taste over other products on the shelf.

The industrial market in Canada and the US appear to be target markets that BeeMaid wishes to pursue. However, they are not markets in which they currently have strengths. The powdered honey product should present real opportunities for them to use as a door opener together with their other honey products.

Sioux Bee Honey is reported to be 10 times the size of BeeMaid Honey Ltd. When we looked at their market position several years ago, they were well represented in every regional market in the US. Their strength is in the retail, food service and industrial markets.

14.2 Partnership Opportunities

14.2.1 Wescobee and BeeMaid Honey Ltd.

When we met with Wescobee and BeeMaid we explored their interest in buying the technology with cash plus royalty arrangement.

Our thoughts on the cash approach is to calculate what the costs would be of them having to get to this same position:

Costs of product development, development of operating parameters	$100,000
Legal costs of obtaining world wide patent rights on the process	$100,000
Development of the marketing plan	$ 20,000
Total Development Costs	$220,000

In addition, it is proposed that Huny Hunks negotiate a royalty agreement on every pound of product sold equal to 5% of wholesale prices. If over each of the next 10 years 1,000,000 lbs annually are sold at a value of $1.60 per pound, the royalty would be $80,000 per year. On the original investment of a reported $300,000 the ROI would be 27% per year.

What is being proposed is the sale of the technology for $220,000 plus a royalty arrangement of 5% of the wholesale price.

14.2.2 Sioux Bee Honey Ltd.

It is clear that Sioux Bee Honey Ltd. is not satisfied with the quality of the powder honey product to which they have access. There may be merits in exploring sale of the technology for the US market to them. The position of Sioux Bee Honey Ltd. in the offshore market is unknown.

Sioux Bee Honey Ltd. has a much stronger market position in the US than does BeeMaid Honey Ltd. In most markets they are the dominant supplier. We would propose the same deal to Sioux Bee Honey Ltd. selling them the US patent for this product. By doing in this manner, we could ask for the $220,000 from them as well. The same royalty arrangement of 5% would be proposed. It is anticipated that the royalty from the US market by itself could be double or triple the $80,000 per year estimated with BeeMaid Honey and Wescobee.

The estimated revenue stream is $220,000, plus a royalty of $160,000.

To sell the technology to Sioux Bee Honey Ltd., however, would possibly jeopardize the sale with BeeMaid Honey Ltd.

15 Summary

The market feasibility study to date shows a number of positive factors in favor of proceeding further with the Marketing Study:

1. There has been interest in the flavor aspects of the product, which will clearly differentiate it from other products on the market.

2. There are many established uses for the product in industrial and baking applications, which will make selling the product a great deal easier.
3. The only product on the shelf that we have found is Labonte Honey, which is mixed with fructose and not very tasty. The flavor advantages of Huny Hunks should allow a competitive advantage over the Labonte product, but this will need to be confirmed in interviews with retailers.
4. The Huny Hunks product as it now exists is far superior to the ADM product in the opinion of the writer, in taste and color.

The ability to use a toll processing operation will allow the gradual entry into this market.

LARRY F. GOODFELLOW, B.Comm., MBA

SUMMARY OF EXPERIENCE

Seven years experience, on a full-time basis, providing consulting services to western Canadian businesses. Two years experience prior to that providing consulting services on a part-time basis.

President of **Innovation Consulting Group Ltd.** a management consulting firm that provides consulting services domestically and internationally in marketing, planning, evaluations and feasibility studies.

One of the founders of Trimension Training & Consulting Group Inc., a Saskatchewan based consulting firm.

Special Lecturer at the College of Commerce, University of Saskatchewan, Saskatoon designing and teaching courses in Strategic Marketing, Logistics Management, Business Policy and Entrepreneurship to third and fourth year undergraduates and Master of Business Administration students. A member of a four person team at the College of Commerce, which developed a Strategic Planning Training Course for the North American operations of CP Rail System.

Over ten years continuous experience for CSP Foods Ltd. in the executive and general management of the marketing area. Accountable for sales, procurement, market development, distribution, hedging and production scheduling for an estimated $250 million in sales, $150 million in grain purchases, and $25 million in freight expense.

DETAILED WORK HISTORY

April 2000

President, Innovation Consulting Group Ltd.

Corporate clients range from small, medium to large firms who require assistance in strategic planning, market development, feasibility studies, and business plans.

Larry concentrates on the food processing and agri-value industry with clients in Saskatchewan and throughout Canada. Projects include market research, market analysis and development, feasibility studies, business plans, plant location analysis and distribution studies for medium and large companies.

Larry's project experience over the last seven years includes specialty crops, hard wheat cereal milling, durum milling, oilseed processing, honey processing and marketing, intensive feedlot operations and potato production.

His most recent assignment has been with BeeMaid Honey Ltd. where projects were conducted on a location analysis, marketing audit, recruitment of a CEO, recruitment of a Manager - Marketing and Sales, Recruitment of a Regional Sales Manager, Valuation of

three businesses for purposes of merger, design of the compensation program for the new company and Interim Chief Executive Officer.

Currently teaching a course in Advanced Marketing to the MBA program, of the College of Commerce.

January 2000 – March 2000
Vice-president, Trimension Training & Consulting Group Inc.
Saskatoon, SK

April 1993- December 1999
President, Trimension Training & Consulting Group Inc.
Saskatoon, SK

Sept 1999 – April 2000
Lecturer, College of Commerce
University of Saskatchewan, Saskatoon, SK

Special Lecturer teaching Advanced Marketing to MBA students and Logistics Management to under-graduates.

July 1991 - 1993
Special Lecturer, College of Commerce
University of Saskatchewan, Saskatoon, SK

Special Lecturer teaching Business Policy, Strategic Marketing and Entrepreneurship to third, fourth year and post-graduate students. Awarded *Most Effective Professor* in the College of Commerce by the 1993 graduating class.

Guest lecturer for the executive education programs of the College of Commerce on Successful Marketing and Customer Service.

May 1991- April 1993
Private Consultant

Consulting Assignment with the POS Pilot Plant Corporation preparing funding proposals and business plans for various organizations including Canamino, a joint venture operation of the POS Pilot Plant Corporation.

Consulting Assignment with the Veterinary Infectious Diseases Organization Saskatoon, SK. Assisted in writing a Business Plan for Biostar Inc., a wholly owned subsidiary.

Consulting Assignment with Industry, Science and Technology Canada
Winnipeg, MB. Conducted an extensive study of the food processing industry in Manitoba, Saskatchewan and Alberta, in order to recommend a development plan for the industry. This entailed interviews with 100 executives from industry, federal and provincial government departments, research institutions, and universities. In addition, 100 studies that have been done on various sectors of the food processing industry in Canada within the last five years were reviewed and catalogued.

April 1976 - December 1990
CSP FOODS LTD.

Based in the agriculture sector, CSP Foods Ltd., is a multi-plant, multi product manufacturing operation crushing, refining, and packaging vegetable oil and meal for the Canadian, USA and offshore market. CSP Foods was the largest processor of canola in Canada, and the largest Canadian exporter of vegetable oil and meal to the US. During a period of 14 years, I held a number of positions with the firm including:

Executive Manager, Marketing **February 1981 - December 1990**

Developed and implemented a Five Year Strategic Marketing Plan to increase the value added contribution from higher margin products, expand the volume of business and develop North American markets to reduce the reliance on off-shore markets.

Achieved five-year goals by expanding the volume of crush by 50%, and doubling sales volume of higher value refined and packaged oil products. Developed the North American market for meal to eliminate dependence on less profitable offshore exports. Doubled the profit on operations prior to interest.

Directed a study of potential customers in the USA to identify volume potential, product specifications, current suppliers and pricing. Established a system of obtaining specifications, forwarding samples, personal visitation by joint sales/technical sales, and where necessary provision of technical personnel for trial production runs at the customer's plant. Exceeded the five-year objectives to become the dominant supplier of canola oil consumed in the USA.

Directed a study on servicing the eastern Canadian tank truck refined oil market. Became a dominant supplier of bulk refined oils to the Canadian market.

Visited Japan and developed a strategy for successful servicing of this market.

Responsible for the procurement activities on canola, sunflower, high erucic acid, and low linolenic. Directed a contract program of one million acres in Saskatchewan and Manitoba.

Responsible for the retail and HRI sales of oil and flour products to the Canadian market, successfully developing the eastern market.

Directed a study on feasibility analysis of a western-based packaging plant. This resulted in the closure of the Nipawin packaging plant and the creation of Prairie Margarine Inc. a packaging plant located in Edmonton in joint venture with Canada Packers. The Edmonton plant has been very profitable, exceeding its plans each year.

Negotiated on behalf of a consortium of western crushers, a $13 million contract with the National Dairy Development Board of India for shipment of vegetable oil.

Appointed by Don Mazankowski, Deputy Prime Minister of Canada to sit on the Transportation Committee of the Agri-Food Policy Review to represent the Canola Crushers of Western Canada. Appointed Chairman of the Sub Committee on Minimum Compensatory Rates on Canola Products. The report was approved and accepted by the Transportation Committee and later by the First Ministers at the August 31, 1990 meeting in Moncton, NB.

General Manager of Commodity Marketing **1980 - 1981**
Winnipeg, MB

Directed the sales, market development, distribution, hedging and accounting for bulk crude and refined vegetable oil and meal sold to the Canadian and off-shore markets.

Administrative & Systems Planning Manager **1979 - 1980**
Winnipeg, MB

Oversaw the accounting and distribution functions for the commodity marketing departments.

Director Corporate Control **1978 - 1979**
Saskatoon, SK

Designed and implemented the MIS system for the company covering futures and physical product. This system was the base later used for successful computerization. Directed the consolidation and reporting of capital and operating budgets. Oversaw the consolidation and reporting of financial statements.

Supervisor, Corporate Accounting **1976 - 1978**
Saskatoon, SK

Promoted to this position as a result of department restructuring.

Manager, Finance and Taxation **1976**
Saskatoon, SK

Conducted a thorough examination of all company insurance programs following the merger and new acquisition. Rationalized and stream lined coverage at significant saving to the company.

Consolidated all location financial statements and prepared variance reports for submission to the Board of Directors.

1974 - 1975
DEPT. OF FINANCE - SASKATCHEWAN GOVERNMENT
Tax Auditor II**, Saskatoon, SK**

July - September 1974
BANK OF MONTREAL
Credit Officer**, Winnipeg, MB**

1973 - 1974
BANK OF MONTREAL
Assistant Branch Manager**, Winnipeg, MB**

1972 - 1973
BANK OF MONTREAL
Trainee**, Saskatoon, SK**

EDUCATION

The Banff Centre School of Management, March, 1985
Banff, AB

Managerial Grid Seminar
Scientific Methods, Inc., October, 1987

Master of Business Administration
University of Saskatchewan, Saskatoon, 1976

Bachelor of Commerce
University of Saskatchewan, Saskatoon, 1972

Royal Roads Military College
Victoria, BC, 1968 - 1969

PROFESSIONAL AFFILIATIONS

1991 - 1994	A member of the Business Advisory Committee to the Dean of the College of Commerce, University of Saskatchewan, Saskatoon, SK.
1990 - 1992	Chairman, Sub-Committee on Minimum Compensatory Rates on Canola Products-Transportation Committee of the Agri-Food Policy Review.
1988 - 1990	Transportation Chairman, Canola Crushers of Western Canada.
1981 - 1990	Director on behalf of CSP Foods Ltd., Canola Crushers of Western Canada.
1984 - 1985	Director, Institute of Edible Oils.
1983 - 1985	Director, Canola Council of Canada.
1983 - 1984	Chairman, Market Development Committee, Canola Crushers of Western Canada.
1983 - 1984	Director on behalf of the Canola Crushers of Western Canada, Neptune Terminals, Burnaby, BC

PERSONAL

Date of Birth:	January 22, 1950
Marital Status:	Married-- 2 children
Health:	Excellent

TRAVEL

I have been fortunate to have visited most major Canadian cities, a number of USA cities, as well as Japan, Hong Kong, Norway, Germany, Switzerland, England, India, Hungary, Yugoslavia and Mexico on market development assignments.

REFERENCES

Available upon request.

SELECTED PROJECTS CONDUCTED BY L. GOODFELLOW (1993 – 2001)

- Expansion Study of a Cow-Calf Operation from 2,500 head to 4,000 head on behalf of Lorne Christopherson, Melfort, Sask.
- Economic Analysis of the Northern Saskatchewan Commercial Fishing Industry, on behalf of the Saskatchewan Department of Northern Affairs.
- An Economic Analysis of the Potential for the Saskatchewan Potato Processing Industry, on behalf of Saskatchewan Department of Co-operative and Economic Development.
- A Location Analysis of a Potential Durum Processing Plant on behalf of the Saskatchewan Department of Agriculture.
- A Feasibility Study to Examine the Economic Benefits of an Expansion of the Food Processing Facility of the Saskatchewan Abilities Council.
- Feasibility Study for a Chicken Processing Plant in Saskatchewan on behalf of the Saskatchewan Chicken Marketing Board.
- Business Plan for a Chicken Processing Plant in Saskatchewan on behalf of the Saskatchewan Chicken Marketing Board.
- Business Plan on behalf of a producer group in western Saskatchewan for the start up of a processing plant to clean, upgrade and treat/coat larger seeds.
- On behalf of Saskatchewan Research Council, developed a market and financial feasibility study for a plant biotech services laboratory which has been built.
- Developed a Business Plan on behalf of the Apparel and Textile Association of Saskatchewan.
- On behalf of the Hudson Bay Dehydrators Association conducted a market assessment for a new alfalfa product to be marketed into the US.
- On behalf of CSP Foods conducted a plant rationalization study on four manufacturing plants, purchased from Weston's and located in eastern Canada.
- Location analysis on behalf of Doepker Industries Ltd. as to whether to purchase the facility which has become their Moose Jaw plant.

- A Location Analysis on behalf of BeeMaid Honey Ltd. for consolidation of their existing two plant structure into one operation. Assessed the viability of merging three companies.

- A Marketing Audit on behalf of BeeMaid Honey Ltd.

- An Organization Review on behalf of BeeMaid Honey Ltd.

- Interim Chief Executive Officer for BeeMaid Honey, during which time a Marketing and Business Plan was developed for the organization.

- Recruitment of a new Chief Executive Officer, new Manager Marketing and Sales, and Regional Sales Manager for BeeMaid Honey Ltd.

- Team leader for Valuation of three organizations for purposes of amalgamation on behalf of BeeMaid Honey Ltd.

- On behalf of BeeMaid Honey Ltd. developed the organization chart for the consolidated operation, including salary ranges, bonus program and personnel policies.

- Numerous strategic planning assignments working with senior management including the following business units of CP Rail: Automotive, Lumber and Pulp and Paper. Other clients include Cameco, Prince Albert REDA, Great Lakes REDA, Doepker Industries in Annaheim, Sask., Saskatchewan Food Processors Association, and Saskatchewan Cattle Feeder's Association.

- Numerous market research projects including Container Protection Industry – surveys of dealers and producers concerning disposal of herbicide and pesticide jugs and recommendations for changes to the program.

- Market research study of investors, communities, producers on behalf of Heartland Livestock Services to propose ideas to improve the offering package being developed for their hog barns.

- Market research study on behalf of Doepker Industries to assess customer satisfaction.

- Market research study and location analysis on behalf of CDMV, a national supplier of veterinary products, which resulted in establishing a facility in Calgary, Alberta.

(306) 657-5645 (work)
(306) 242-0441 (home)
harper@innovationgroup.org

Corrin Harper

PERSONAL PROFILE

- Self motivated with well-developed communication and interpersonal skills
- Ability to work under pressure
- Advanced information technology skills
- Excellent organizational skills with ability to prioritize and handle multiple tasks
- Work well both independently and as part of a team

EDUCATION

Graduate Studies, University of Saskatchewan Sept. 1997 – Dec. 1999 Saskatoon, SK

Master of Business Administration

- Completed on a part time basis
- Cumulative Average – 78.3 %

College of Commerce, University of Saskatchewan Sept. 1990 – Dec.1994 Saskatoon, SK

Bachelor of Commerce

- Majors: Human Resource Management and Health Care Administration
- Cumulative Average – 79.5%
- Graduated with distinction

PROFESSIONAL EXPERIENCE

Innovation Consulting Group Ltd. **January 2000 - Present** Saskatoon, SK

Senior Consultant

- Project leader for projects in a variety of industries including alfalfa, honey, retail clothing, and metal fabrication, all of which involved primary and secondary research.
- Worked with the CFO, Board of Directors, and Accenture (Anderson Consulting) on the business valuation model which was accepted by the Board of Directors of 3 organizations.
- Recruited a CEO, Marketing Manager and Marketing Representatives for a large food processing company. Currently recruiting a VP of Marketing and a VP of Information Technology for an on-line market research company.
- Innovation Group was appointed to run a company of which I worked as a member of the sales and marketing team on developing objectives, review of accounts, and developing strategies.
- Performed a marketing audit of a firm which involved surveys of retail food buyers and brokers in the food industry throughout North America.
- Member of the team that performed a locational analysis with recommendations to the board of directors on closure of the plant and related personnel issues including the severance of the CEO.
- Worked with the new CEO and board of directors on the implementation of a new incentive program which was subsequently approved. We are currently working with management on the implementation of the program throughout the organization.
- Worked with management on the design of a benchmarking system used to determine the variable pay component of the compensation program.

Saskatchewan Blue Cross January 1996 – December 1999 Saskatoon, SK

Research Analyst

- Prepared and validated market share information
- Developed customer profiles by insurable benefit to determine both possible target markets and existing internal customer base sales potential
- Collected and analyzed national group sales data for the Canadian Association of Blue Cross Plans (CABCP)
- Assisted in the development of new product lines and modified existing ones, by collecting and examining statistical information which was used to determine both coverage levels and pricing for individual and group health insurance products
- Improved data collection by creating and distributing database applications used to capture both qualitative and quantitative data, including customer inquiries, customer responses, and sale quotations
- Developed and maintained monthly sales reports for each product line, and claims reports for each insurable benefit, compared to budget figures

Saskatoon District Health September 1994 – December 1996 Saskatoon, SK

Project Worker – Utilization Division (contract)

- Provided analytical and statistical information for an Operating Room Audit, performed simultaneously at three hospital sites, as well as an Air Ambulance Audit
- Assisted in the development of audit reports including objectives, time lines, populations, methodologies, limitations, key finding, recommendations, and evaluations
- Resolved audit inquiries from health service providers by clarifying existing information or conducting further analysis
- Analyzed the utilization of an admission/discharge center located at the Royal University Hospital, Saskatoon Saskatchewan, and assisted in the preparation of a journal submission
- Researched the key steps required to implement an effective utilization management program

Project Worker - Rural Health and Development Division (contract)

- Assisted in the coordination of a Community Services Accreditation pilot project involving the Rural Health and Development Division, the Nutrition Division, and Youth Services
- Evaluated the Rural Health and Development Division against the Canadian Council of Health Facilities Accreditation Standards
- Assisted in the development of a stroke prevention unit in one of the district's community health centers

Administrative Resident May 1994 – August 1994 Saskatoon, SK

- Designed a survey to examine the difficulties health providers face in obtaining service access information, and used findings to make recommendations
- Evaluated client satisfaction surveys in the available literature and from provincial long term care facilities, and made changes to the surveys used in the district
- Assisted the Rural Health Society, a 40 member advisory committee to the Saskatoon District Health Board, in developing an executive council

COMPUTER SKILLS

- ***Operating Systems*** - Windows NT/2000/98/95
- ***Database/Query*** –Access 2000/97/2.0 (querying and analysis of AS/400 data using ODBC), Oracle Data Browser, AS/400 Database Query Utilities, SPSS, Distributed MS Access Application using Microsoft Developer Tools 2000
- ***Applications*** – Microsoft Office 2000 (Word, Excel, Access, PowerPoint), Visio, Microsoft Project, Paradox, Corel WordPerfect Suite 7.0 (WordPerfect, Quattro Pro, Presentations), FrontPage 98, Netscape Communicator, Impromptu

INTERESTS AND ACTIVITIES

- Enjoy reading, hiking, mountain biking and travelling
- Recently visited the Yucatan Peninsula, Mexico, and South Miami Beach, Miami Florida

-References available upon request-